This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

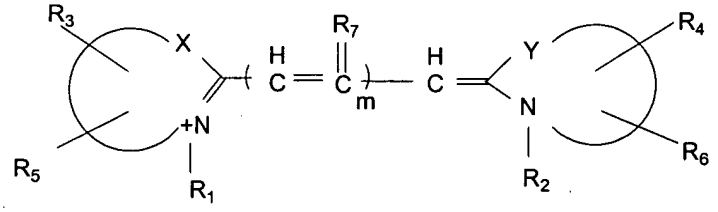
1. (Original) A kit for DNA sequencing comprising:

a first, second, third and fourth dye terminator molecule, each of the dye terminator molecules comprising a dye molecule, a linker of at least 10 atoms in length and either ddATP, ddCTP, ddGTP or ddTTP as a mono or tri-phosphate and a thermostable DNA polymerase.

2. (Original) The kit of claim 1, wherein said polymerase is a thermostable DNA polymerase that has an altered dNMP binding site so as to improve the incorporation of dideoxynucleotides relative to the natural polymerase.

3. (Original) A compound of formula (I)

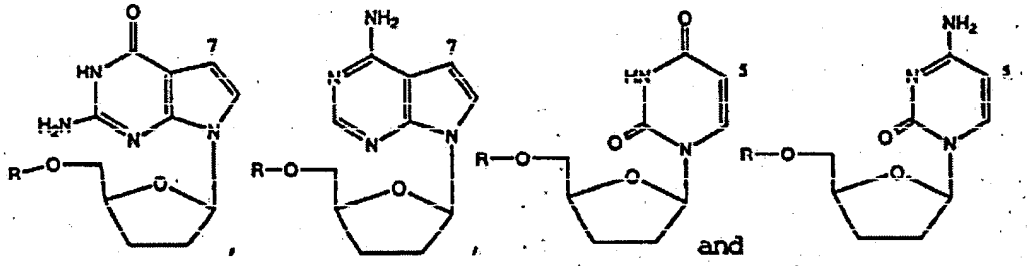
wherein A is a cyanine dye of the structure



and the curved lines represent carbon atoms necessary for the formulation of cyanine dyes, X and Y are selected from the group consisting of O, S, and CH_3-C-CH_3, m is an integer selected from the group consisting of 1, 2, 3, and 4; R1, R2, R3, R4, R5, R6 and R7 are independently selected from the group consisting of H, OH, CO_2H, sulfonic acid or sulfonate groups, esters, amides, ethers, alkyl or aryl groups and B, and one R1, R2, R3, R4, R5, R6 or R7 is B;

B is a linker of at least 10 atoms in length wherein the atoms are selected from the group consisting of carbon, nitrogen, oxygen, substituted carbon, and sulfur and the linker is attached at one end to A and at the other end to C;

C is a dideoxynucleotide selected from the group consisting of



and wherein said linker is covalently bonded to said dideoxynucleotide at position 7 for ddA and ddG and at position 5 for ddC and ddT and wherein r is a mono or tri-phosphate.

4. (Original) The compound of claims 3, wherein said linker is selected from the group consisting of

-C≡C- CH_2-NH-CO- $(CH_2)_5$-NH-CO-,

-C≡C- CH_2-NH-CO- $(CH_2)_9$-NH-SO_2-,

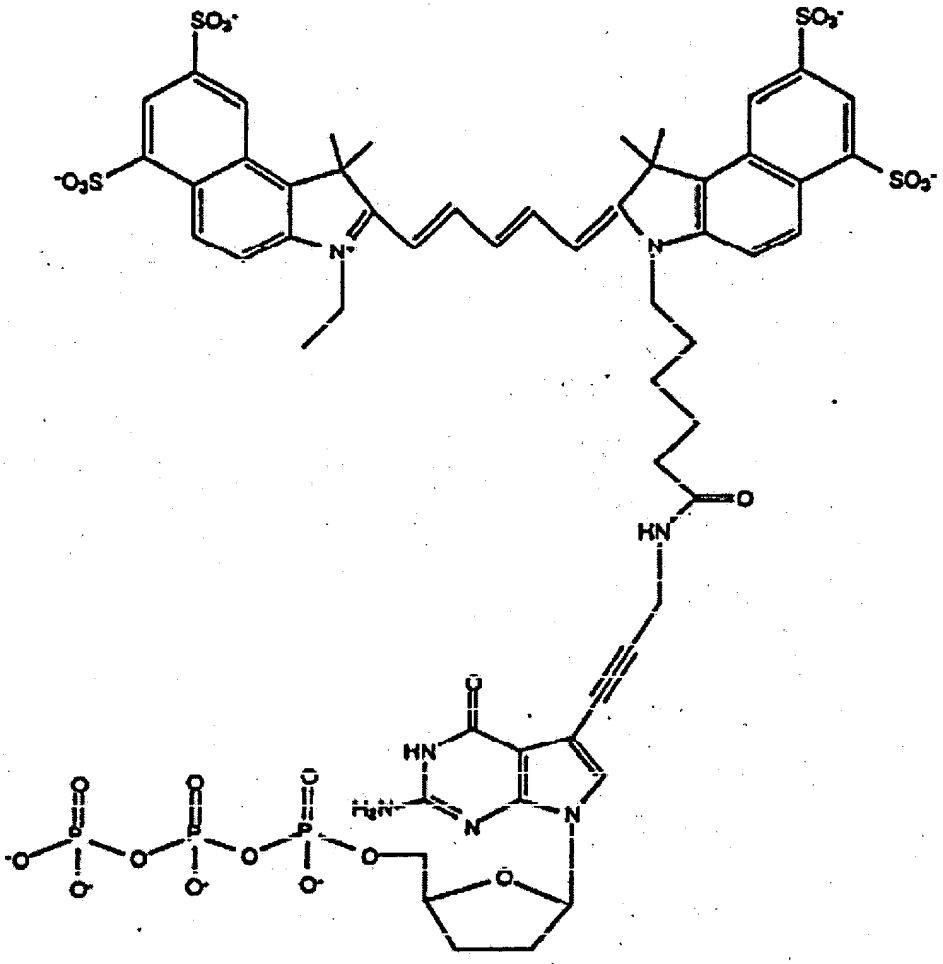
-C≡C- CH_2-NH-CO- $(CH_2)_{10}$-NH-CO-,

-C≡C- CH_2-NH-CO- $(CH_2)_5$-,

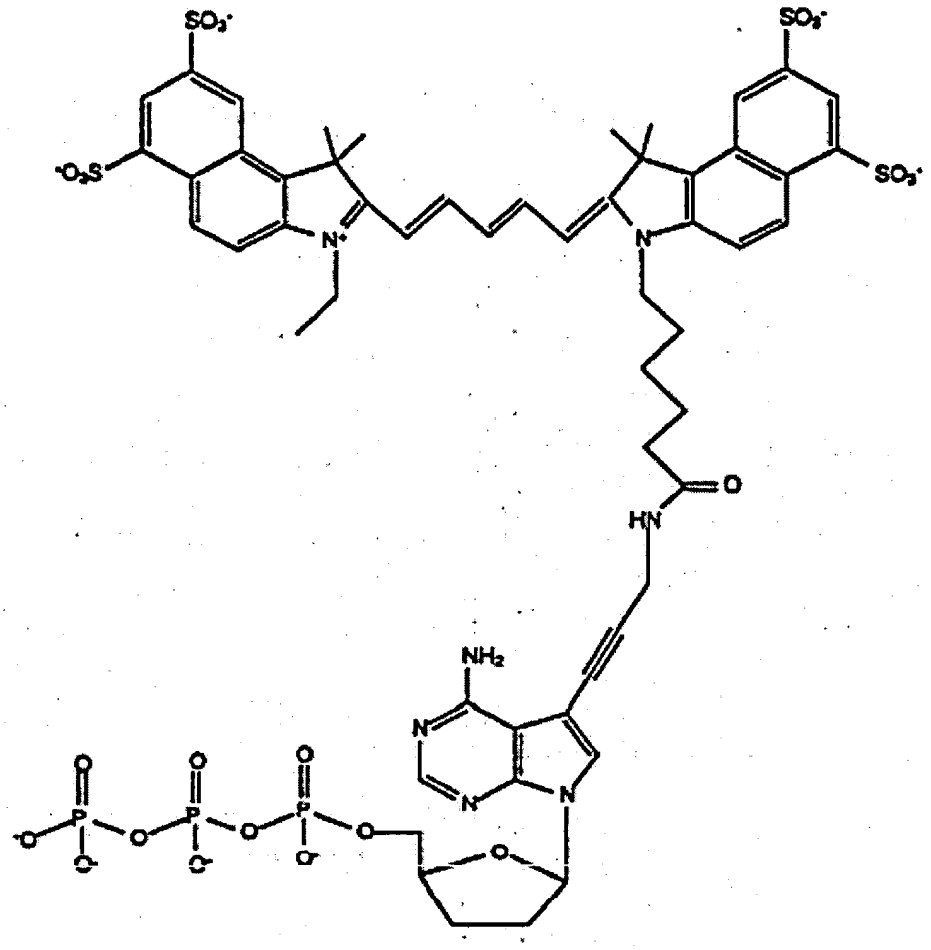
-C≡C- CH_2-NH-CO- $(CH_2)_5$ -NH-CO- $(CH_2)_5$-, and

-C≡C- CH_2-NH-CO- $(CH_2)_5$ -NH-CO- $(CH_2)_{10}$ -NH-CO- .

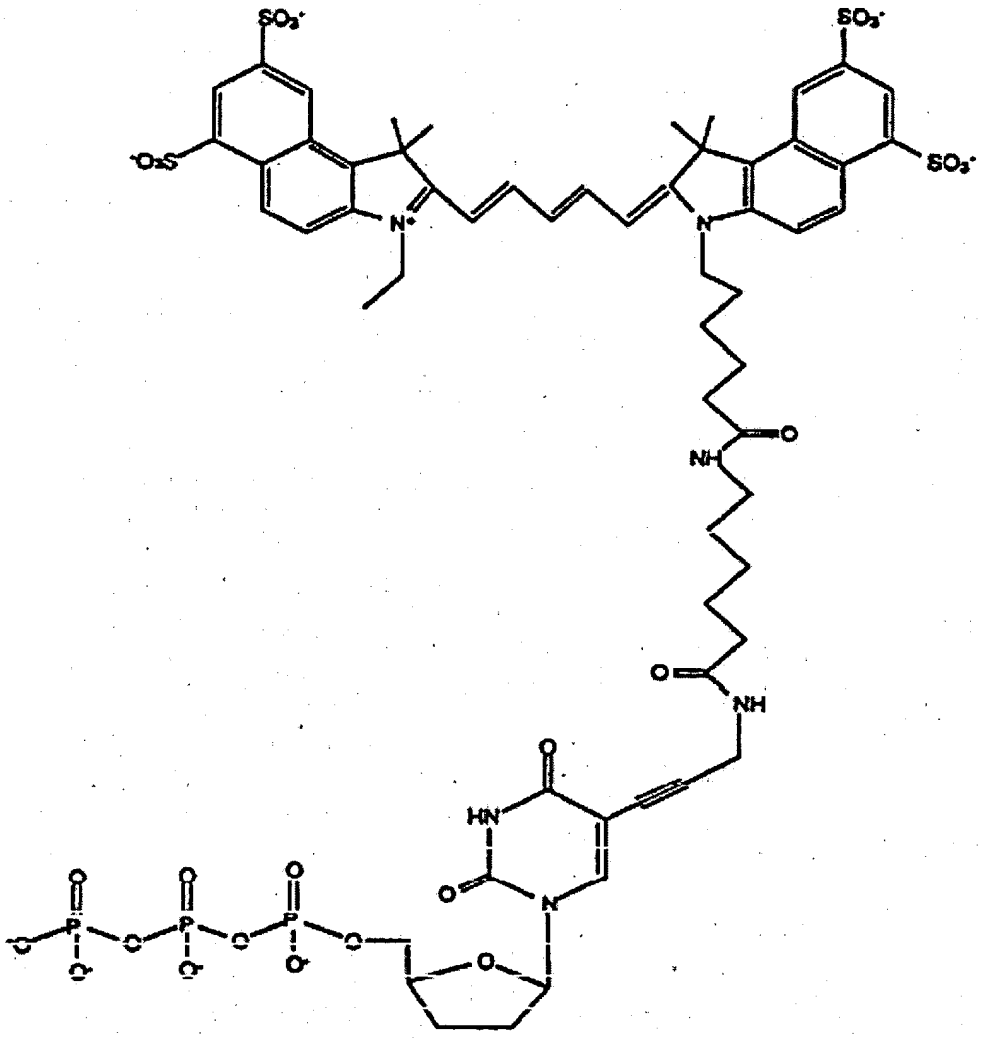
5. (Original) A compound of the formula (II):



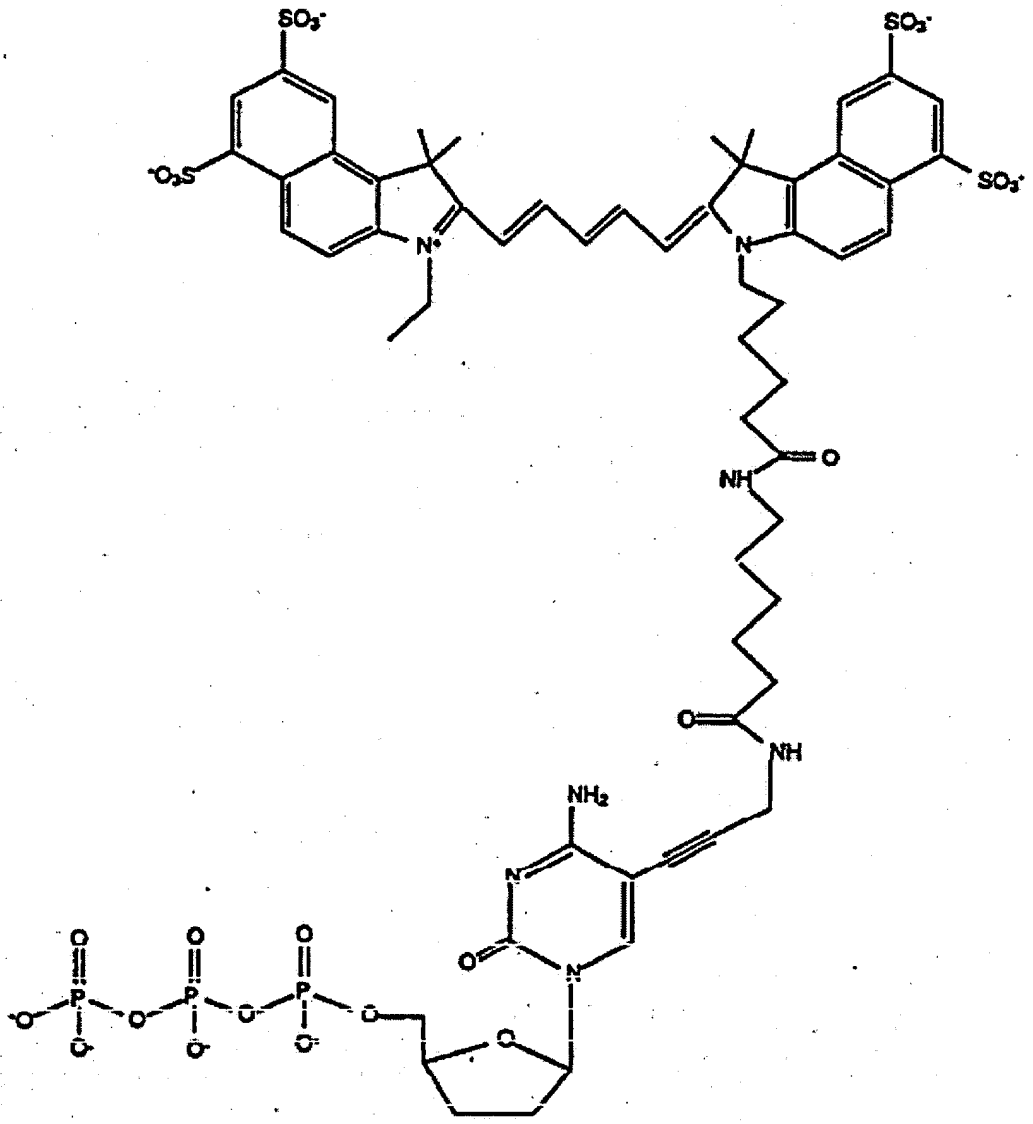
6. (Original) A compound of the formula (III):



7. (Original) A compound of the formula (IV):



8. (Original) A compound of the formula (V):



9. (Original) A deoxyribonucleic acid sequence containing the compound of formula I.

10. (Previously presented) A deoxyribonucleotide sequence containing a compound of formula II, III, IV, or V.

11. (Original) A kit for DNA sequencing comprising compounds of formula II, III, IV, and V.

12. (Original) The kit of claim 11, further comprising a thermostable DNA polymerase.

13. (Original) The kit of claim 12, wherein said polymerase is a thermostable DNA polymerase that has an altered dNMP binding site so as to improve the incorporation of dideoxynucleotides relative to the natural polymerase.

14-17. Cancelled.

18. (Currently amended) The kit of claim 1, wherein said linker is a linker of 10 to 25 atoms in length.

19. (Previously presented) The kit of claim 18, wherein the dye molecule on at least one of said dye terminator molecules is a cyanine dye.

20. (Previously presented) The kit of claim 18, wherein the dye molecules on each of said dye terminator molecules is a cyanine dye.

21. (Currently amended) The compound of claim 3, wherein said linker is a linker of 10 to 25 atoms in length.

22. (New) The compound of claim 3, wherein said dideoxynucleotide is ddA.

23. (New) The compound of claim 3, wherein said dideoxynucleotide is ddG.

24. (New) The compound of claim 3, wherein said dideoxynucleotide is ddC.

25. (New) The compound of claim 3, wherein said dideoxynucleotide is ddT.

26. (New) The compound of claim 3, wherein the first two atoms of said linker attached to a nucleotide base are joined by a triple bond.

27. (New) The compound of claim 3, wherein a said linker is a linker of 11 atoms in length.

28. (New) The compound of claim 3, wherein a said linker is a linker of 12 atoms in length.

29. (New) The compound of claim 3, wherein a said linker is a linker of 13 atoms in length.

30. (New) The compound of claim 3, wherein a said linker is a linker of 14 atoms in length.

31. (New) The compound of claim 3, wherein a said linker is a linker of 15 atoms in length.

32. (New) The compound of claim 3, wherein a said linker is a linker of 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 atoms in length.

33. (New) The kit of claim 1, comprising a compound of claim 22.

34. (New) The kit of claim 1, comprising a compound of claim 23.

35. (New) The kit of claim 1, comprising a compound of claim 24.

36. (New) The kit of claim 1, comprising a compound of claim 25.

37. (New) The kit of claim 1, wherein the first two atoms of a linker attached to a nucleotide base are joined by a triple bond.

38. (New) The kit of claim 1, wherein a said linker is a linker of 11 atoms in length.

39. (New) The kit of claim 1, wherein a said linker is a linker of 12 atoms in length.

40. (New) The kit of claim 1, wherein a said linker is a linker of 13 atoms in length.

41. (New) The kit of claim 1, wherein a said linker is a linker of 14 atoms in length.

42. (New) The kit of claim 1, wherein a said linker is a linker of 15 atoms in length.

43. (New) The kit of claim 1, wherein a said linker is a linker of 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 atoms in length.

44. (New) The kit of claim 1, wherein a said linker is a linker of 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 atoms in length and the first two atoms of the linker attached to a nucleotide base are joined by a triple bond.

45. (New) The compound of claim 3, where said linker is a linker of 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 atoms in length and the first two atoms of the linker attached to a nucleotide base are joined by a triple bond.